

Bronchial Asthma



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- It is characterized by episodic cough, chest tightness, shortness of breath and wheezing.
- They have increased nonspecific airway responsiveness to various agents
- Results in reversible airway obstruction

C/F



- episodic cough
- Dyspnea
- Wheezing
- chest tightness
- The cough can be dry but is often productive of thick, clear sputum.
- The majority of patients with asthma have a personal and family history of allergies.

Trigger factors



- upper respiratory tract infections
- cold air
- stress
- exercise.
- Asthma is generally worse at night.

Differential Diagnosis

Condition	Characteristics
COPD	Airway obstruction is less reversible; typically seen in older patients with smoking history
Vocal cord dysfunction	Abrupt onset and end of symptoms; monophonic wheeze; more common in younger patients; confirm with laryngoscopy or flow-volume loop
Heart failure	Dyspnea and often wheezing; crackles on auscultation; limited response to asthma therapy; cardiomegaly; edema; elevated BNP; other features of heart failure
Bronchiectasis	Cough productive of large amount of purulent sputum; rhonchi and crackles are common; may have wheezing and clubbing; confirmed by CT imaging
Allergic bronchopulmonary aspergillosis	Recurrent infiltrates on chest radiograph; eosinophilia; high IgE levels; frequent need for corticosteroid treatment
Cystic fibrosis	Cough productive of large amount of purulent sputum; rhonchi and crackles are common; prominent clubbing; may have wheezing
Mechanical obstruction	More localized wheezing; if central in location, flow-volume loop may provide a clue

How to Dx?



- spirometry (PFT) demonstrated airway obstruction (low FEV_1 /FVC ratio) and reversibility (12% or greater improvement in FEV_1 after administration of bronchodilators)
- bronchial challenge test to assess for airway hyperresponsiveness.

Asthma Syndromes



- **Reactive Airways Dysfunction Syndrome**
- **Occupational Asthma**
- **Cough-Variant Asthma**
- **Exercise-Induced Bronchospasm**



The goals of asthma management are to

- (1) maintain a normal functional status
- (2) preserve normal lung function
- (3) reduce the need for rescue albuterol to less than twice weekly
- (4) reduce symptom flares that require more intensive therapy
- (5) decrease the side effects of treatment.

Table 4. Classification of Asthma Severity

Components of Severity	Intermittent	Persistent		
		Mild	Moderate	Severe
Impairment ^a				
Symptoms	≤2 days/week	>2 days/week but not daily	Daily	Throughout the day
Nighttime awakenings	≤2 ×/month	3-4 ×/month	>1 ×/week but not nightly	Often 7 ×/week
SABA use for symptom control (not prevention of EIB)	≤2 days/week	>2 days/week but not more than 1 ×/d	Daily	Several times a day
Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
Lung function	Normal FEV ₁ between exacerbations FEV ₁ >80% of predicted FEV ₁ /FVC normal	FEV ₁ >80% of predicted FEV ₁ /FVC normal	FEV ₁ >60% but <80% of predicted FEV ₁ /FVC reduced 5%	FEV ₁ <60% of predicted FEV ₁ /FVC reduced >5%



- **β_2 -Agonists**
- **Anticholinergic Agents**
- **Inhaled Corticosteroids**
- **Systemic Steroids**
- **Leukotriene-Modifying Drugs**
- **Theophylline**

